

THE USE OF DEVICES FOR INDICATING VOWEL LENGTH IN LATIN.

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The Latin language, like some others, passed through various stages as regards pronunciation and accent. Before the days of Livius Andronicus, as is shown by sundry well-known linguistic phenomena, there was a stress accent on the initial syllable of every word, accompanied in the longer words by a secondary accent. In a few instances this early accent has left traces in the literature of the ante-classical period; for example, in the versification of Plautus. In general, however, it had given place to one which fell on the penult or the antepenult, very rarely and for special reasons on the last syllable. The position of this new accent conformed to a simple rule, falling on the penult if that syllable was long; otherwise on the antepenult. At about the same time greater importance was given to the quantity of vowels and syllables, not only those whose quantity determined the accent, but throughout all words. This careful observance of quantity seems to have been due to Greek influence, which made itself felt first in Roman versification and then in the speech of educated Romans.

It is well known that the meters used by the Roman poets, except for the occasional survival of the native Saturnian, were borrowed or adapted from those of the Greeks, who based their metrical schemes upon quantity. A dactyl, for instance, consisted of a long syllable followed by two shorts; not, as in English, of a stressed syllable followed by two without stress. That Latin verse, for some centuries after the time of Livius Andronicus, was based upon quantity is universally recognized. It is also believed by most scholars, whatever their actual practice may be, that there was no "ictus" in the form of a strong stress on the first syllable, for example, of a dactyl or spondee, as in English and as in Latin poetry as it was formerly read, or "scanned," by the English-speaking races. Some scholars, promi-

ment among whom was the late Professor Bennett, of Cornell University, have maintained¹ that there was no ictus at all, its place being taken by what Bennett called "quantitative predominance." Of those who believe in the existence of an ictus—and they are at present in the majority—some think that both ictus and accent consisted of a very slight stress; that in verse the ictus took the place of the accent, which was disregarded in the reading of poetry. Others believe that, owing to the adoption of Greek literary models and Greek verse forms, educated Romans of the period from about 100 B.C. to 300 A.D. used the Greek musical or pitch accent. Since the ictus, if it existed, was unquestionably stress, this view also disposes of the "conflicts" between accent and ictus. It may be said in passing that the only strong argument which has been advanced against Professor Bennett's view is the statement, based upon experiments in the psychological laboratories, that rhythm without ictus is an impossibility. This statement Professor Bennett, in an unpublished paper to which I have had access,² questions on the ground that the experiments were made upon subjects of Teutonic race, to whom a stress accent was familiar and a pronunciation without stress was unnatural.

For many scholars the question of the nature of the classical Latin accent was settled by Professor Abbott's paper on "The Accent in Vulgar and Formal Latin,"³ in which he maintained that while the accent of the common people continued to be one of stress, the educated Romans developed an accent in which pitch predominated. This view, which at first seems startling, if not improbable, is reasonable enough when we consider the extent to which Roman literature was based upon Greek, as well as the fact that to Romans of good education Greek was a second language, which was almost as familiar as the vernacular. Thus the emperor Claudius said to a foreigner who spoke both Greek and Latin: "cum utroque sermone nostro sis

¹ See Bennett, in *Amer. Jour. of Phil.*, XIX., pp. 361 ff. and XX., 412 ff. This view was expressed by Madvig, in his *Latin Grammar* of 1847, and it is supported by John Williams White in his work on *The Verse of Greek Comedy*, p. 9, and by others.

² "Theory and Practice in the Reading of Classical Verse." An abstract appears in *Univ. of Penna. Bulletin*, XX., 1 (Oct. 1, 1919), pp. 362 ff.

³ *Classical Philology*, II., pp. 444 ff.

paratus.”⁴ The theory is also given strong support by the circumstance that both quantitative poetry and pitch accent by 400 A.D. were giving place to the native stress and to accentual poetry. For the detailed evidence I may refer to Abbott’s paper and to one by Professor R. G. Kent in the *Transactions of the American Philological Association*, LI., pp. 19 ff.⁵

This theory of the nature and history of the Latin accent makes the metrical reading of Latin poetry, if not less difficult, at least more rational and, it is to be hoped, more uniform. It also makes possible the careful observance of the quantity of all long syllables, which would be difficult, and probably impossible, in such words as *ēvītābātur* and *dēsīderābātur*, if the accent were one of stress. Careful observance of quantity did not, of course, imply an abnormally slow delivery or a uniform length for every long syllable. Chæroboscus, a writer on Greek metrical theory, designates five degrees of length in syllables, and modern phoneticians recognize at least as many.

It is natural to infer, as certain linguistic phenomena indicate, that the common people as a whole did not adopt the fashionable pitch accent; but it was probably not without influence upon the speech of those who came most closely in contact with the upper classes or had social ambitions. Furthermore, the Greeks at Rome were not only the teachers of the children of the upper classes, but they filled many humbler positions and therefore were likely to influence all classes of society. Thus Juvenal writes:

Quem vis hominem secum attulit ad nos;
Grammaticus, rhetor, geometres, pictor, aliptes,
Augur, schoenobates, medicus, magus; omnia novit
Græculus esuriens. (*Sat.*, III., 75 ff.)

⁴ Suet. *Claud.*, 42, 1; cf. Hor. *Odes*, III., 8, 5, docte sermones utriusque linguæ, and many similar utterances.

⁵ See also Turner, *Classical Review*, 1912, pp. 147 ff., who finds no evidence in formal Latin from 250 B.C. to the end of the fourth century of our era in support of the opinion that the Latin accent was primarily one of stress; although, as Professor Abbott again points out in *Class. Phil.*, VIII., p. 92, vulgar Latin seems to furnish clear proof of the predominance of stress. Skutsch, in *Glotta*, IV., pp. 187 ff. suggests that the pre-literary first-syllable accent came from the Etruscans, and that the later three-syllable accent was due to Greek influence.

The new pitch accent became known to the commons also in the theatres, as they listened to the declamation of the comic and tragic actors. Cicero twice tells us⁶ that all the whole audience cried out if a single syllable was pronounced too long or too short. That he referred only to the senators who sat with him in the orchestra, or at most added only the "fourteen rows" occupied by the knights, is made improbable by the context; for he prefaces the former statement with the remark, *quotus quisque est qui teneat artem numerorum ac modorum*, and follows the latter with the words, *nec vero multitudo pedes novit aut ullos numeros tenet*. And today auditors with good ears notice an unmetrical line in a Shakespearean play, or a false note in grand opera, even though they know nothing of musical theory or of meter.

In many instances, of course, the difference between long and short was obvious and significant. Thus Nero used to pun cruelly at the expense of his sainted predecessor, saying that Claudius had ceased *inter homines morari*, lengthening the first syllable of the last word, as Suetonius obligingly explains,⁷ and thus changing its meaning from "linger" to "play the fool." We may compare *hinc avium dulcedo ducit ad avium* in the *Auctor ad Herennium* (iv, 29) and many similar word plays.⁸

As is well known, the Romans employed various devices for indicating the length of vowels. A doubled vowel—*e.g.*, *PAASTOR*, I, 551,⁹ 132 B.C.; *SEEDES*, I, 1166, 104 B.C.—from about 134 B.C. until about 78 B.C., a period fixed by the testimony of inscriptions, as well as by the assignment of the device to the poet Accius,¹⁰ who, if he was the first to employ it in Latin, borrowed it from the Oscan. For

⁶ *Orat.*, 173 and *De Orat.*, III., 196.

⁷ *Nero*, 33, 1. The tense of *iocabatur* indicates that Nero was proud of this witticism and used it more than once.

⁸ It hardly seems necessary to say that the pronunciation of prose and poetry were the same. This is directly stated by Cicero, *Orator*, 190: 'Sit igitur hoc cognitum, in solutis etiam verbis inesse numeros eosdemque esse oratorios qui sunt poetici'; and by Quintilian, *Inst. Orat.* IX., 4, 61: 'Et in omni quidem corpore totoque, ut ita dixerim, tractu numerus insertus est; neque enim loqui possumus nisi syllabis brevibus ac longis, ex quibus pedes fiunt.'

⁹ References like this are to the *Corpus Inscriptionum Latinarum*.

¹⁰ Terentius Scaurus, *De Orthog.*, VII., 18, 12 K.

a long *i* Accius wrote *ei*, a usage which had come in before his time and continued through the seventh and eighth centuries of the city. The origin and history of this device, which was not very common in Latin, are discussed with a full list of examples by Bersu in Bezenberger's *Beiträge*, xxiii, 252 ff.

In the time of Sulla a tall I came into use as the designation of the long vowel, without at once displacing *ei*; and at about the same time the apex was introduced to indicate the long quantity of the other vowels. These two devices continued in use until the latter part of the third century, the latest examples being found in v, 857, of the time of Diocletian, where we have seven apices in five words, three of which are over the diphthong *æ*. A much later instance, Nársés in XIV., 4059, of the year 565 A.D., represents a different use of the apex, to be mentioned later (p. 79).

The employment of these devices, their variation, and the results deduced from them are discussed at length by Bersu¹¹ and Christiansen.¹² One point, however, is fully treated neither by them nor, so far as I know, by anyone else: namely, the reason or reasons why some long vowels are marked and others are left unmarked. Almost the only contribution to this aspect of the phenomenon has been the very easy one of exploding the idea that the apex designated the word accent. In the light of the large number of apices on the final syllables of words, one can only wonder that that opinion was ever held by anyone. I have never been able to convince myself that these marks were put on at random, but I have thought that the examination of a large number of inscriptions would at least throw some light upon the question. This paper presents the beginning of such an investigation. In its entirety the problem is an enormous one, since it involves the consideration not only of all the indicated quantities, but also of many long vowels in inscriptions belonging to the period from 100 B.C. to 300 A.D. of which the quantities are not indicated. There is also the possibility, if not the probability, of a negative result; but there are certain to be by-products of some interest and value.

¹¹ L. c.

¹² *De Apicibus et I longis*, Husum, 1889.

The Roman grammarians are not wholly silent as to this point. Quintilian says: ¹³ "Longis syllabis omnibus adponere apicem ineptissimum est, quia plurimae natura ipsa verbi quod scribitur patent; sed interim necessarium, cum eadem littera alium atque alium intellectum prout correpta vel producta est facit: ut "malus" arborem significet an hominem non bonum apice distinguitur, "palus" aliud priore syllaba longa, aliud sequenti significat, et cum eadem littera nominativo casu brevis, ablativo longa est, utrum sequamur plerumque hac nota monendi sumus." In the time of Hadrian, Terentius Scaurus writes: ¹⁴ "Apices ibi poni debent ubi isdem litteris alia atque alia res designatur, ut 'venit' et 'vēnit,' 'aret' et 'āret,' 'legit' et 'lēgit,' ceteraque his similia. Super *i* tamen litteram apex non ponitur; melius enim *I* in longius producitur. Ceterae vocales, quia eodem ordine positae diversa significant, apice distinguuntur, ne legens dubitatione impediatur."

These statements are clear and definite. The second one made by Scaurus is confirmed by the inscriptions; for although there are twenty-two instances of an apex over *i* in the twelfth volume of the *C. I. L.* alone, that use is relatively very rare. An apex occasionally appears even over a tall *I*, as in XII., 890 and 3065 add. The other statement, in which Quintilian and Scaurus agree, points to a logical and helpful use of the apex, but unfortunately the statement is not confirmed by the inscriptions. The apex¹⁵ is used in many instances where it does not serve to distinguish words or case-endings of the same spelling except for the quantity of the vowels, and frequently such words or case-endings are left unmarked. This fact, however, does not prevent us from accepting Quintilian's principle as one of those which regulate the use of the apex; for it will be seen that no principle of the kind is observed with uniformity. In fact, one is almost tempted to think at times that uniformity was deliberately avoided.

Of many thousand inscriptions which I have examined I have found only two in which all the long vowels are marked. As both

¹³ *Inst. Orat.*, I., 7, 2-3.

¹⁴ *De Orthog.*, VII., 33, 5 ff. K.

¹⁵ For brevity, the term 'apex' is used here and in numerous other instances to include the apex and the *I* longa.

these inscriptions are short, probably no great significance is to be attached to their consistency, but they are interesting as rare specimens. One is VI., 30805, *Silvánó Au. sacrum. C. Iúlius Castrénsis ex vótó* (incidentally it may be remarked that the marking of a long vowel before *ns* is not very common). The other is XII., 2925, *Ioví¹⁶ O. M. Gallus Iúlius Honorátus V. S. L. M.* There are numerous other inscriptions in which the number of marks is relatively large, such as III., 9960; V., 6786, 7430; VI., 4226; XII., 3219; XIV., 2553, quoted on p. 91, and many others. In some, on the contrary, only a few words are marked, generally, although not invariably, at the beginning: *e.g.*, VI., 30865, where the first and third lines, *Pró salúte . . . Pontificis Maximi*, are accompanied by eleven lines containing ten long vowels, no one of which is marked; in VI., 10363, *innúinis* is the only marked quantity in an inscription of eight lines.

Even a cursory examination shows that the apex and the I longa are not used in exactly the same way. Except for a few inevitable errors, the apex is much more consistently confined to the designation of long vowels, while the I longa has various other uses.¹⁷ Furthermore, the I longa is decidedly more frequent than the apex. In those volumes of the *C. I. L.* which are provided with indices the examples of words marked with an apex are collected, but very few of the editors have essayed the enormous task of assembling all the tall I's. Some inscriptions have the I longa, but no instances of the apex, including the account of the *Ludi Sæculares* of 17 B.C. (VI., 32323); VI., 9992, for example, has twelve tall I's within a few lines, but not a single apex. In this connection it should be noted that there is another apex, frequently having the same form as the one which indicates a long vowel, which is used as a mark of punctuation, both between words and after abbreviations. This apex, which is attached to consonants and short vowels, as well as to long vowels, is commonly placed beside the letter instead of over it, as in VI., 838, *ex' visu fecit' Evia' Helpis*, where it serves to separate words, instead of the usual point. In VI., 31856, belonging to the early part of the reign of Marcus Aurelius, it serves to designate abbreviations: *a rationib' próc trib'*. Sometimes it stands over the letter, as in *m̄* for

¹⁶ An italicized *i* is used to designate the I longa.

¹⁷ See Christiansen, 1. c.

missus, IV., 1182, No. 6, and \bar{F} for fecit, IX., 2082 B, a Christian inscription; cf. Augg. and lib., VI., 738, of the time of Septimius Severus; dec., XIV., 3023, and primig., XIV., 2851. This apex is much less common than the one which designates a long vowel and is not likely to be mistaken for it. It may have led to the use of the long vowel apex as a mark of punctuation after abbreviations and at the end of sentences and clauses (see p. 86), when such a use is consistent with its employment as a designation of long quantity; as in fé. for fecerunt, VI., 4027, and elsewhere. Conversely, the long vowel apex may have influenced the form of the other apex, which perhaps came from the commoner mark of punctuation !.

It would seem that the best results would be obtained by examining some of the longer official inscriptions of the best period, and we may begin with the Monumentum Ancyranum, the great inscription in which the Emperor Augustus recorded the events of his reign.¹⁸ In examining this document we must, of course, bear in mind that it is a copy of the lost original in Rome. We shall probably be safe, however, in assuming that the stone-cutter followed his copy as carefully in adding such marks as he did in other respects, and this assumption receives support from the fact that in the beginning and end of the inscription, which were not copied from the Roman original, errors are more frequent than in the body of the record, where they are very rare.

The inscription proper contains approximately 1,884 words and 1,399 long vowel-quantities. Of the latter 487, or about 34 per cent., are indicated by apices or by the tall I. The marks are for the most part limited to one on each word, but forty words have two marks and two have three marks each.¹⁹ The modern scholar, in spite of the silence of the native grammarians, might be led to inquire whether the so-called "hidden quantities" are designated by marks. We find

¹⁸ Suet. *Aug.*, 101, 4; Cassius Dio, 56, 33.

¹⁹ The counting has been done with care, and while it would be rash to claim absolute accuracy, the percentage of error is certainly not large enough to affect any of the conclusions. The writer has made complete word indices of the Monumentum Ancyranum (designated as M. A.) and the Speech of Claudius (S. C.), and full lists of all the examples of the different positions and uses of the apex. Considerations of space prevent the printing of these lists, but they form a reasonable guarantee of accuracy.

that in the M. A. twenty-six such vowels are marked, but they amount to only about 20 per cent. of the 138 hidden quantities in the whole inscription. The only repetitions are *lústrum* and *lústro*, which occur three times each. A vowel before *ns* is marked four times, but is left unmarked sixty-nine times. These results in themselves are almost enough to show that "hidden quantities" are no more frequently marked than others. In fact, in nine words in which hidden quantities are not marked we find other long vowels marked; thus *consulátú* occurs four times.

Although, of course, the apex did not designate the accent, it naturally occurs frequently on accented syllables, since an accented penult often contains a long vowel, which is sometimes the only long vowel of the word. In the M. A. 214 accented syllables are marked, while there are 208 accented syllables containing long vowels which are not marked; the count is confined to words which have apices, and monosyllables are not included.

Quintilian's rule is observed in seventy-eight cases, while in forty instances marks are omitted which would differentiate words or forms. These figures, however, are the result of giving the rule the most liberal interpretation possible, including, for example, all cases of *īs* and not merely those from words which also have forms in *-īs*, and adverbs like *antea* as well as ablatives in *-a*. If we confine the count to forms which could actually be mistaken for others, we have thirty-nine marked vowels and twenty-three unmarked.

Considering next the syllables on which the marks are found, there are two instances of marks on the sixth syllable from the end, which in each case is the first syllable of the word: *frúmentátiónes* and *próvincialibus*. The former is one of two words in the entire inscription which have three marks. The latter has only one mark, although it contains another long vowel.

Eight words have marks on the fifth syllable from the end, including *ínsaliare* and *ínconsulatu*, in which the preposition is treated as a part of the word. The mark on *ínconsulatu* is one of the very few errors in the main body of the inscription. Only two words have additional marks, *úiversórum* and *múnicipiis*; in one other only the

first syllable of the word is preserved, so that it is impossible to say whether or not there was a mark on the only other long vowel.

Fourteen words have marks on the fourth syllable from the end. In eight instances this is also the first syllable of the word, and in eight instances all the surviving long vowels are marked. Four of the words have other marks as well, and there is one repetition, *úniversus* and *úniver(su)*. It is perhaps significant that in several of the words, *amíctia*, *Óceanus*, *tribúnica*, *úniversus*, for example, we have a single long vowel in the neighborhood of short sounds, where the quantity is especially important for correct pronunciation.

On the last three syllables marks are much more frequent, which is not surprising when we consider the relative number of long and short words in the language.²⁰ On the antepenult we have sixty-one marks. In thirty-four of these the antepenult is the first syllable of the word and in forty-eight it is the accented syllable. In five of the twelve instances in which the antepenult is not the accented syllable the accented penult is also marked, and in four others the accented penult contains a short vowel followed by two consonants, leaving only three words in which the accented syllable is not marked when it could be marked. There are several repetitions: *cúriam* twice; *óstium* twice;²¹ *frúmentum* twice; *aerárium* twice. Eight hidden quantities are marked and only one is unmarked

For the penult the figures greatly increase, there being 167 examples of an indication of the length of that syllable. In every case but one the penult is the accented syllable. The solitary exception is *cívica*, one of the few errors in the body of the inscription, a short *i* being written with *I longa*. In fifty-four instances the penult is the first syllable of the word.

The greatest number of marks, 204, is found on the final syllable. In twenty-nine words there is also a second mark, usually on the penult. Thirty-one monosyllables have not been included.

It does not seem probable that any particular long vowel was more

²⁰ In the M. A. there are but four words of six syllables, twenty-four of five syllables, and ninety-four of four syllables.

²¹ For brevity, mere differences in case, such as *ostium*, *ostio*, are not noted separately.

likely to be marked than another. The figures for the use of the apex in the M. A. are given by Christiansen²² as follows:

| | | | | | |
|-----|-----|----|----|---|----|
| a | o | e | u | i | ae |
| 157 | 102 | 65 | 49 | 1 | 1 |

If we subtract the total of these, 365, from the total number of marks, 487, we get 112 as the number of tall I's, giving that letter second place. In IX., 3060, all the apices, four in number, are on the letter *a*, but no stress is to be laid upon this, and there seems to be no reason for marking one long vowel more frequently than another; in VI., 6191, all the apices are on final *o*.

In the M. A., and the same thing seems to be true of some other inscriptions, the marks show a decided tendency to flock together. Sometimes entire sections have few indications of quantity (*e.g.*, I., 4, with the exception of the first two lines, I., 5; I., 13, the latter part of II., 8; IV., 22, and IV., 30); others, on the contrary, have many marks, such as III., 14; IV., 23, etc. It is very common for two successive words in agreement to have marks, whether the vowels are the same, as in *auri coronári*, *triumphós meós*, *eá pecuniá*; or different, as in *reditú meó*, *octingentós pedés*, *curulís triumphós*. In some instances three successive words are marked, as *summá sacrá viá*, or we find two successive words with two marks each, as *cúriá Iúliá*, *Divi Iúli*. An example of striking inconsistency appears in V., 28, in the phrase "in Africa, Sicilia, Macedoniá utraque Hispaniá . . . Asia, Syria, Galliá Narbonensi, Pisidia," where it is difficult to see why three of the ablatives should be marked and the others not.

We may also note a tendency to mark series of words which are not in agreement, such as *impensá grandí reféci* and *rivos aquarum complúribus locís vetustáte labentés reféci* (both in IV., 20). Since the endings *-orum* and *-arum* are often marked, the absence of a mark on *aquarum* is also noteworthy. In III., 16, we have a very long series: *pecuniam (pro) agrís, quós in consulátú meó quárto et posteá consulibus M. C(rasso e)t Cn. Lentulô augure absignávi militibus, solví municípís*. At first thought the eleven marks in two lines and a half seem no more remarkable than their omission in the words *consulibus . . . augure*, but as a matter of fact the latter phrase, although of some length, contains only two long vowels. Moreover,

²² L. c., p. 13.

as we have seen, a long vowel before *ns* is seldom marked in the M. A., and the same thing is true of final *o*. The absence of a mark on *militibus* is perhaps more noteworthy. For some reason or other that word, in spite of frequent occurrences, is never marked, although *militaria* occurs. It is possibly not too fanciful, in the light of the honorary use of the apex mentioned below, to connect this omission with Augustus's attitude towards the soldiers.²³ In general, the marking of the long vowels seems to be to a certain extent a habit, which once begun is carried on for a time, dropped and resumed, a view which receives confirmation from the usage in other inscriptions.

The apex seems to be used, as the *I longa* undoubtedly was, to add dignity or majesty, or to emphasize certain words with that end in view. *Divi* occurs twice in the M. A. and is frequent throughout the period from Augustus to Commodus. *Iúlius* and *Iúlia* occur seven times with one or two marks (the latter is possible only in the oblique cases), and the latter once without a mark. We find *tribúnicia* and *tribunicíá* of the emperor's tribunician power beside *tribunicia* and an indecisive *(trib)unicia*. *Consulés* is found only twice out of twenty-nine occurrences of the word, but we have *consulátum* once, and *consulátú* four times, of the consulates of Augustus. It may be fanciful to connect three occurrences of *Capitolium* without marks with Augustus's minimizing of the importance of Jupiter and the Capitol as compared with Apollo and the Palatine, but *Capitolíó* occurs in VI., 2027, B (perhaps of the year 37 A.D.) and 2080, 9 (120 A.D.), and *Capitolíó* in VI., 2042, 6 and 59, 2059, 41, all inscriptions of the Arval Brethren. If we add the frequent occurrences of *Dis Mánibus*, we may seem to be justified in the conclusion that this feature plays some part, although it did not extend, as did the use of the tall *I*, to short vowels. It is rather striking in this connection that in the inscriptions dedicated by lictors we find *lictor* in VI., 1871, 1881, 1892 and 1905; in the inscriptions of viatores, *viátóri*, VI., 1921; cf. 1932, a. Other official titles which occur with

²³ Suet. *Aug.*, 25, 1, neque post bella civilia aut in contione aut per edictum ullos militum commilitones appellabat, sed milites, ac ne a filiis quidem aut privignis suis imperio præditis aliter appellari passus est, ambitiosius id existimans quam aut ratio militaris aut temporum quies aut sua domusque suæ maiestas postularet. For the different attitude of Julius Cæsar, see Suet. *Jul.*, 65 ff.

marks are Augustales, accensus, curator, flamen, patronus, procurator, legatus (with two marks, V., 4359), rex (five times in the M. A., twice régés); in próconsul (III., 9960, and elsewhere) and prónepos (IX., 3176; III., 14147, 1) the mark may indicate the prefix (see below). Marks are not very common in the Pompeian inscriptions, but we find vénatió in IV., 3884, venátio in 1186, and venatió in 1190, doubtless for emphasis; cf. véla, IV., 1190. The same general feature appears in the designation of military and other prizes, as in coroná áureá, V., 7003.

The following words which occur more than once are always marked: curia three times, flumen twice, lustrum six times, manibis or manibus four times, ostium twice, Penates twice, recipravi twice, refeci three times, solvi twice with solutis, frumentum twice with frumentationes. The following, on the other hand, show a variation in usage: auxi and auxi, accepérunt and acceperunt, cíves three times but cives once, denáriós twice but denarium, and others.

In a number of instances the mark coincides with a word division in compounds as in undéviginti, quinquágingta, rés publica, reí publicae; or indicates a suffix, as in aerárium, anniversárium, etc. There seems to be no other good reason for the frequent marking of nómen (three times in the M. A., II., 5513; V., 7430; VI., 2042, a, 26; 2059, 38), testámentum (III., 10867; V., 969; XII., 1375, 3593); cf. órnámentís, XII., 3203, and ornámentís, XII., 3219. Prefixes are perhaps indicated in the same way, as in reféci, dedúxi and in aéde, the only example of an apex over *ae* in the M. A., although that usage becomes common later. In the marking of case-endings, which is frequent, we should expect Quintilian's rule to be followed, but the expectation is not fulfilled. We find the endings *-arum* and *-orum* marked, *-es* in the nominative and accusative plural, *-is* in the dative-ablative, and *-os* in the accusative, plural, no one of which is likely to be mistaken for another form, as well as the ablative in *a*, the accusative plural in *-īs*, and the forms in *-ūs* of the u-declension, where the marks differentiate the cases from the nominative, the genitive singular, and the forms in *-ūs*. In the M. A. *-o* of the dative-ablative singular is rarely, if ever, marked, but elsewhere it is frequently given an apex; seventy-four times in *C. I. L.*, XII. The forms of the a-declension in *-ae* are not marked in the M. A., but have the apex

forty-seven times in *C. I. L.*, XIV., twenty-eight times in XII. and eighteen times in V.

There is a decided tendency, for which there seems to be no obvious reason, to mark the penultimate or ultima, or both, in perfect tenses: *víci, féci, cépi; auxí, fuí, iuví, fecí; égi, reféci, mísi*. To this may be added over twenty examples of *fécit, fécerunt, fécerit*, etc. (seven of *fécit* in the index to *C. I. L.*, XIV.), *nuncupávit*, VI., 2042 d, 25; *cooptavérunt*, VI., 2078, 39; *vénerit*, VI., 1932 a; *decrévit*, VI., 894, and many others.

The use of an apex to indicate punctuation has already been spoken of.²⁴ There are in the M. A. a good many instances of a mark on a final long vowel preceding a comma, a period, or a section mark in the original; in some of the places with section marks no punctuation would be used in English. Noteworthy in this connection is the phrase in *quo triginta róstratae náves trirémes a(ut birem)és*, § (IV., 23), where the change from a penultimate accent to one on the last syllable of *biremes*, whether accompanied by another mark on the penult or not, is most easily explained as indicating a comma. Also noteworthy is the sentence *rívos . . . reféci* (IV., 20), quoted on p. 83, which is followed by a comma and a section mark.

We may now consider the speech of the emperor Claudius at Lugdunum, of the year 48 A.D. (XIII., 1668). The total number of long vowels is 498, of which 130 have indications of quantity, a percentage somewhat smaller than in the M. A. There are but six words with two marks and none with three. Of forty-five "hidden quantities" eleven are marked, a relatively larger number than in the M. A., but hardly enough to indicate a decided tendency. There are forty-nine instances of *I longa*, and the apices are distributed as follows: a, 32; o, 20; e, 13; u, 12. This does not differ greatly from the usage of the M. A., except that the *I longa* is relatively more frequent. There seem to be no short vowels which are marked with the apex or the tall *I*, and Quintilian's rule is observed with greater frequency than in the earlier inscription.

The same tendency to mark vowels in successive words is to be observed in the S. C. as in the M. A. Combinations of two words

²⁴ P. 80.

are especially common, although the marking of the same case-endings in successive words is rare. We find *hác civitate, státusque rés p(ublica), Sabinis veniéns*. Combinations of three words are less frequent: *Ancó Márcio, Príscus; hóc ipsó consulári; secúram átergo pácem*. We have one group of four words: *superbì morés invisì civitati*, but longer ones do not seem to occur. There are fewer indications of a use of the marks for dignity or emphasis than in the M. A. Here perhaps belong *cívitas*, which occurs four times, and *cívili*, *Divus* twice, *rés publica* four times. We have a single long vowel marked in the neighborhood of short vowels, where the proper observance of the quantity is especially important, in *Óceanus* (also marked in the M. A.), *útilitate, ornátissima*. The most frequent use of the marks seems to be in the indication of case-endings, prefixes and suffixes: *coloniárum, bonórum, átergo, rés publica, approbáre, tenuére, trádere, translátum, díligo, díducta, exáctus, invisì*. It must be remembered, however, that in several of these words the vowel which is marked is the only long vowel; also, in all these categories, that there may be other reasons for the marking of a vowel than those which determine the category. The marking of *tenuére* seems to be in accordance with Quintilian's rule, but in *approbáre* it is unnecessary.

A few words are marked in all their occurrences: *civitas, Divus, casus* (twice with two marks), *finés*; perhaps less stress is to be laid upon *dicere* and *dixi*, *translatum* and *translata*, *venisti* and *veniéns*. The use of the marks to indicate punctuation is much less frequent than in the M. A.

It may be convenient to arrange the distribution of the marks in the two inscriptions in tabular form:

| | Total Long Vowels. | Total Number of Marks. | Words with | | Syllables Marked Counting from the End of the Word. | | | | | | Monosyllables. | Hidden Quantities. | | Accentuated Syllables. | | Quintilian's Rule. | |
|----------|--------------------|------------------------|------------|--------------|---|-----|----|----|---|---|----------------|--------------------|-------------|------------------------|-------------|--------------------|---------------|
| | | | Two Marks. | Three Marks. | 1 | 2 | 3 | 4 | 5 | 6 | | Marked. | Not Marked. | Marked. | Not Marked. | Observed. | Not Observed. |
| | | | | | | | | | | | | | | | | | |
| M.A..... | 1,399 | 487 | 40 | 2 | 204 | 167 | 61 | 14 | 8 | 2 | 31 | 26 | 112 | 214 | 208 | 78 | 40 |
| S.C..... | 498 | 130 | 6 | 0 | 50 | 42 | 15 | 6 | 1 | 0 | 14 | 11 | 34 | 52 | 55 | 19 | 4 |

We may now pass to a general examination of the inscriptions, which shows that the usage was most common in Rome and Italy, in Cisalpine Gaul and Gallia Narbonensis, and in Spain. It was more frequent in central than in southern Italy. The inscriptions of Africa show very few examples, those of Britain none. The use of such marks is most frequent and accurate in official inscriptions and those of the educated. With the common people, so far as they use the marks at all, the usage seems to be imitative and sporadic. This view is apparently confirmed by the use of marks in certain formulas, such as "libertis libertabusque posterisque eorum," where it is common to find some or (rarely) all of the six long quantities indicated, especially by the I longa.²⁵

In conclusion, a few additions to, or confirmations of, usages found in the M. A. and S. C. may be given. As has already been noted in connection with case-endings, an apex on the diphthong *æ* (usually on the first vowel, less commonly on the second) is of frequent occurrence. This also appears in syllables which are not case-endings. Christiansen²⁶ gives thirty-two instances, of which twenty-four occur in the *Acta Fratrum Arvalium*, and very many examples may be added to his list. His remark, p. 17, that an apex is rare over *æ* and *au* is misleading; for the occurrence of an apex over any diphthong other than *æ* is exceedingly rare, while over *æ* it is fairly common. His suggestion that the purpose of the mark was to distinguish *æ* representing *ē* from the same diphthong representing *ě* seems doubtful; for although we find *æques* for *eques* in VI., 3409, of 197 A.D., the general use of *æ* for short *e* was certainly not early enough to account for the apex over *æ*.

The greatest number of indicated quantities in any one word of the M. A. and the S. C. is three, and the two inscriptions together contain only two such words. In VI., 11466, we find *infélicissimi* with four marks, including the somewhat rare designation of a long vowel before *nf*. Three marks occur several times, *e.g.*: *Lúsitána* twice, II., 5390; *dédicátióné*, III., 10767; *quaéstórió*, III., 11654; *Fortúnátó*, V., 1066; *Narbónésés*, XII., 4393; *vénáliciário*, V., 3349;

²⁵ VI., 9992, 10170, 10401, 10673, 11537; cf. 1805, 1917, 1921.

²⁶ L. c., p. 13.

dónátó, VI., 1377, 8; procédéns, VI., 1527; pácató, VI., 1527; viátóri, VI., 1921, 1935 a; félicí, VI., 12133; honórátó, XII., 3219; Honórátó, XII., 3637; tógátórum, XIV., 409, 14; fátálés, XIV., 2553; adórátúros, XIV., 3608, 17; órátíone, XIV., 3608, 31.

There is a decided tendency to mark quantities in personal names, perhaps as an indication of honor (see p. 84), or in some cases to insure their correct pronunciation: many men object to having their names misspelled or mispronounced. The latter would seem to be the reason for Caninio, M. A., III., 16, in a list of ten consuls, of which no other name has (or apparently needs) an indication of quantity: Cáninius occurs in X., 3036, Cáninió twice in XIV., 2556, and in VI., 14343 Caninio is the only word marked in an inscription of five lines. Names which are frequently marked are Iulius and Iulia (see p. 84), of which I have thirty-one examples, by no means a complete collection; Marcus and its derivatives, V., 555, 7678, XIV., 2802, etc.; Cornelius, III., 8786, 11690, V., 757 add., 909 add., 1179, twice, six times in *C. I. L.*, XII., etc.; Mars and its derivatives, Antonius and derivatives, V., 115 twice, seven examples in III.; Pollio, V., 5906, VI., 1829; four times in XII.

Nouns indicating relationship are frequently marked, perhaps as a token of honor or respect: for example, uxori, II., 2642, III., 8786 twice, VI., 1859, 1975, and fourteen other examples; filius, VI., 880, 1825 and elsewhere, four times in the M. A., but unmarked eight times; frater, XIV., 2637, 3608, 19 and frequently; mater, V., 1179, 6013, 6091, 7678 and frequently. In the last-named inscription fratri, matri, uxori and sorori are all marked, although a second occurrence of sorori is unmarked. In V., 1179, matri is one of only two words marked in an inscription of six lines, the other mark being over *a*. It is doubtless to this tendency that the erroneous marking of cóniugi is due in V., 1066, and VI., 9914.

The preposition *a* is often marked: six times in the M. A. (twice unmarked) and four times in the S. C. (once unmarked); also II., 3426, III., 12046, VI., 4312, 9970, XIV., 254, 409, 14; 3543, and in numerous other instances. It seems probable that the mark serves merely to separate the preposition from a following noun, whether the two are written as one word or separately, and we also find *e*, *de* and *pro* marked. The marking of monosyllabic words, however, is

rather frequent (thirty-one examples in the M. A. and fourteen in the S. C.).

In metrical inscriptions the long marks frequently coincide with the ictus (or whatever term we may prefer to use), but here, too, there is no uniformity. All the apices seldom coincide with the ictus,²⁷ nor is every ictus marked in any inscription. A typical instance of irregularity occurs in IX., 60, where we have eleven hexameter lines, of which two have no marks, five have one mark, one has two marks, one three, and two four. The lines with four marks, which are not consecutive lines, read as follows:

Híc meas déposui cúras omnésque labores.
Fortuna infráctá ter me fessum recreásti.

In the former line three of the four apices coincide with the ictus. The one over *curas* does not, but the proper length of the *u* is important, perhaps especially important, for the rhythm of the verse. We find a corresponding syllable marked elsewhere; for example, in the following lines:

Viva viro placui prima et cárissimum coniunx. VI., 6593.
Quós pius saepe colit fráter coniunxque puellae. VI., 28877.

Since in the last example the word in question is *frater*, there is room for doubt, as often happens, as to the reason for the mark. The disregard of *s* for making position in the first and fourth of the above lines and the grammatical error in the third point to a vulgar origin. It is noteworthy that in the second line two of the marks, being over hidden quantities, are superfluous so far as the meter is concerned, although they are important for the correct pronunciation.

In the inscription IX., 60, twelve apices, in eleven lines, coincide with the ictus, while seven do not. With this inscription we may contrast VI., 9797, of nineteen lines, in which the apices and tall *I*'s are very numerous, although in no line do the marks coincide throughout with the ictus. In another inscription, XIV., 2553, consisting of two elegiac couplets, nearly all the long quantities are marked, but three long vowels on which an ictus falls are not marked. The in-

²⁷ There is one example in a pentameter (VI., 6593), *post obitus satis hác fémina láude nitet*.

scription reads as follows :

Ólla Ī Secundáe
 Fátálés moneó né quis mé lúgeat orbi
 Namque Secunda fui nunc tegor é cinere.
 Hic ego secúris iaceo super omnibus úna
 Nátális quia nós septimus ussit amor.
 Nátális monumenti III Idús Maiás.

It may seem that the inferences which have been drawn are based upon a small number of examples. That is quite true, but it must be remembered that the total number of marked words is comparatively small, and that among these the repetitions are far from numerous. In the index to *C. I. L.*, XIV., for example, there are 211 words with apices; among these there are but 33 repetitions and only fifteen instances in which words are repeated three times or more. The occurrence, therefore, of *Mánibus* eight times, of *fécit* seven times, and of *Iúlius*, *Iúlia* five times may fairly be regarded as significant, especially when the number of examples of these forms is increased from other volumes. The study has suggested to the writer a number of lines of investigation, which he hopes to follow out at some future time.

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